



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09 688,733	10 16 2000	Yoshimasa Saito	09792909-4653	3697

7590 08 07 2002

SONNENSCHN NATH & ROSENTHAL  
80th Floor - Sears Tower  
233 S. Wacker Drive  
Chicago, IL 60606

EXAMINER

DUONG, THOI V

ART UNIT	PAPER NUMBER
----------	--------------

2871

DATE MAILED: 08 07 2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/688,733

Applicant(s)

SAITO, YOSHIMASA

Examiner

Thoi V Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 ~~is/are~~ are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 ~~is/are~~ are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 2, 5, 8, 11, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 1, 2, and 5, it is unclear how a dot or a pixel can divide the liquid crystal alignment films.

With respect to claims 8, 11, and 14, the method of "irradiating said liquid crystal alignment films on said transparent substrates" is not consistent with the specification and the drawing which disclose one substrate is irradiated with UV light at a time. It appears that the method recites both substrates being irradiated at the same time.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by McCartney (USPN 5,657,105).

McCartney defines that each pixel or dot is the smallest area which can be independently operated (col. 1, lines 16-17). As shown in Fig. 1, McCartney discloses a

Art Unit: 2871

liquid crystal display (LCD) element including a pair of transparent substrates, a liquid crystal sandwiched between said pair of transparent substrates, and liquid crystal alignment films formed on liquid crystal side surfaces of said respective transparent substrates, wherein:

said liquid crystal alignment films are divided into apertures corresponding to a dot and/or a pixel for alignment using polarized ultra violet light, and liquid crystal alignment directions at dots adjoining to each other differ from each other so that it is possible to obtain a predetermined main viewing angle direction (col. 2, lines 49-67; col. 3, lines 19-21). According to Fig. 1, the liquid crystal alignment directions at two dots or more (four dots) or two pixels or more (four pixels) differ from each other.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCartney (USPN 5,657,105) in view of Kim et al. (USPN 5,909,265).

McCartney discloses a method for manufacturing a liquid crystal display element (col. 2, lines 49-67) including a pair of transparent substrates, a liquid crystal sandwiched between said pair of transparent substrates, and liquid crystal alignment films formed on liquid crystal side surfaces of said respective transparent substrates, said method comprising the steps of:

Art Unit: 2871

forming ultraviolet light responsive type liquid crystal alignment film on the transparent substrate over the liquid crystal;

irradiating said liquid crystal alignment film on said transparent substrate parallel to a reference plane with a polarized ultraviolet ray dividedly by a dot or a pixel so that liquid crystal alignment directions at two dots or more (four dots) or two pixels or more (four pixels) differ from each other for obtaining a predetermined main viewing angle direction so as to regulate an alignment direction of said liquid crystal; and

irradiating said transparent substrate, on which said liquid crystal alignment film irradiated with said polarized ultraviolet ray is formed, with said polarized ultraviolet ray dividedly by the dot for developing a pre-tilt angle.

McCartney discloses a LCD that is basically the same as that recited in claims 8-14 except that, in the second irradiation, McCartney does not teach turning the transparent substrate to a direction different from its direction at the first irradiation. Kim disclose a method of fabricating a LCD element comprising the steps of providing a substrate coated with a photo-alignment material, exposing the substrate to a first ultraviolet light in a normal direction to the substrate, and exposing the substrate to a second ultraviolet light at an oblique angle (col. 5, lines 40-52). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of McCartney with the teaching of Kim by exposing the substrate to a second polarized UV light at an oblique angle so as to obtain a desired pretilt angle for the display.

Art Unit: 2871

**Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Williams Sikes, can be reached at (703) 308-4842.

Thoi Duong



07/18/2002

